

AGENDA

- What are managed lanes generally?
- What are priced managed lanes, specifically?
- Where are priced managed lanes and what do they look like?
- Why is policy important?

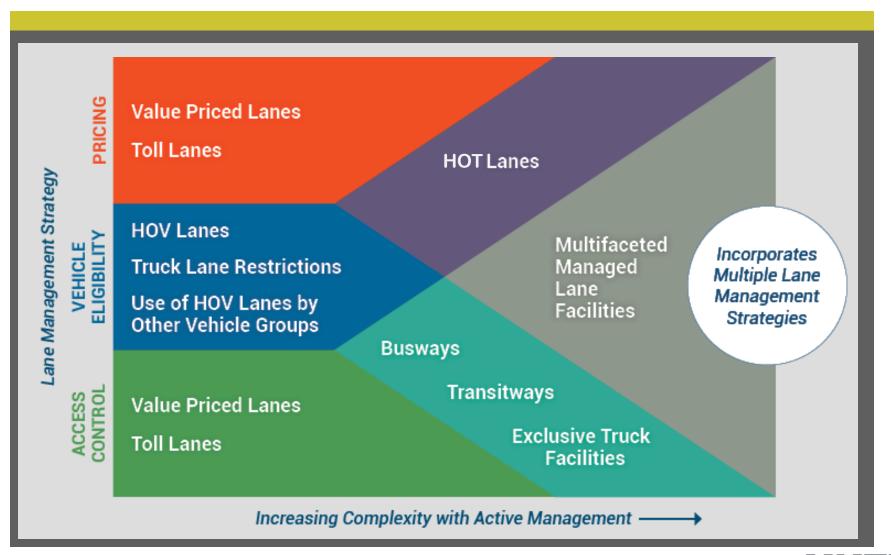




WHAT ARE MANAGED LANES?



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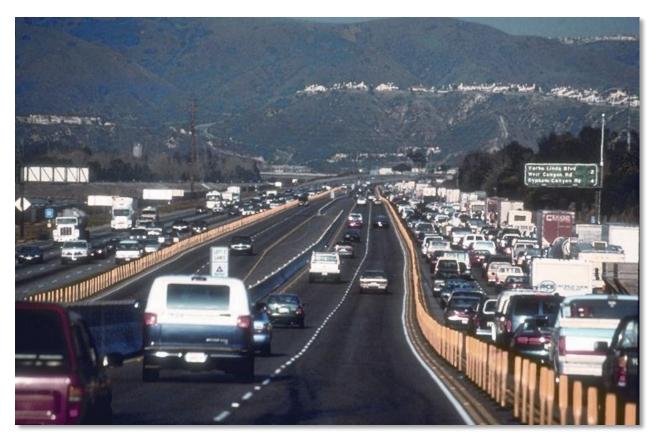




WHAT ARE PRICED MANAGED LANES?



- - A tolled corridor inside of an existing road
 - Congestion is managed with pricing





SR 91, California



- Trip reliability
- Time savings
- Improved mobility
- Congestion management
- Revenue generation
- Reduction in capital costs





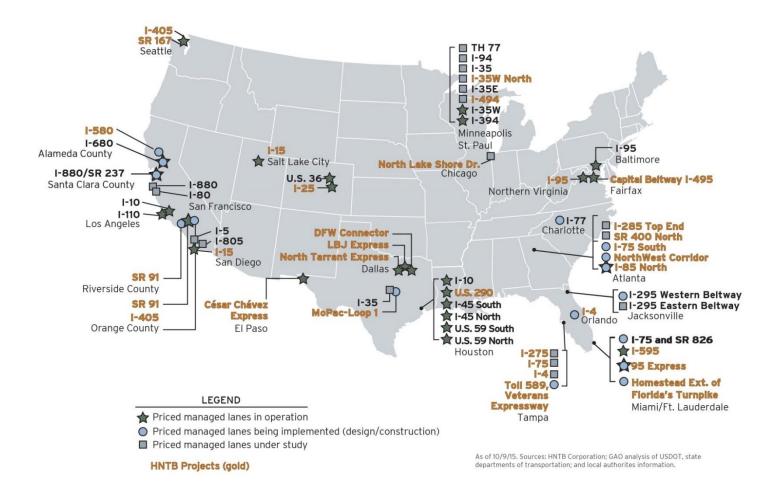
WHERE ARE PRICED MANAGED LANES?



PRICED MANAGED LANES IN OPERATION

Priced Managed Lanes Across the United States

HNTB







WHAT DO PMLS LOOK LIKE?



95 EXPRESS – MIAMI, FL





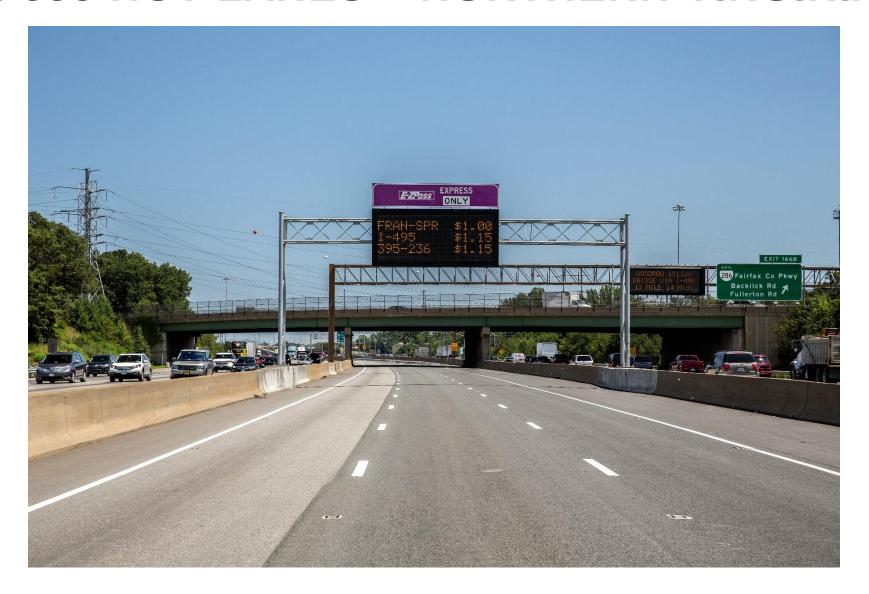


I-15 PMLS - SAN DIEGO, CA





I-395 HOT LANES - NORTHERN VIRGINIA







WHY IS POLICY IMPORTANT?











- Who has to pay to use the lanes?
- How are the toll rates established?
 - To maximize revenue or maximize throughput?
 - Dynamically or statically?
- What happens to the revenue generated by the PMLs?



BOTTOM LINE

- Establishing a Vision for PMLs and associated policies is paramount
- Policies need to be developed collaboratively between governmental entities and stakeholders
 - Internal first (owners and operators)
 - > External second (MPOs, transit providers, et cetera)
- Determining agencies' roles and responsibilities is key
- Revenue potential is directly linked to front-end policy decisions







MAP-21 Requirements

 "Each state is required to develop a risk-based asset management plan for the National Highway System (NHS) to improve or preserve the condition of the assets and the performance of the system."

23 U.S.C. 119(e)(1), MAP-21 § 1106

 "USDOT is required to issue a regulation not later than 18 months after date of enactment, after consultation with the States and other stakeholders, which will establish the process to develop the State asset management plan for the NHS."

23 U.S.C. 119(e)(8), MAP-21 § 1106



Asset Management

- Asset management is the
 - "strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost."

23 U.S.C. 101(a)(2), MAP-21 § 1103



NCTA Asset Management

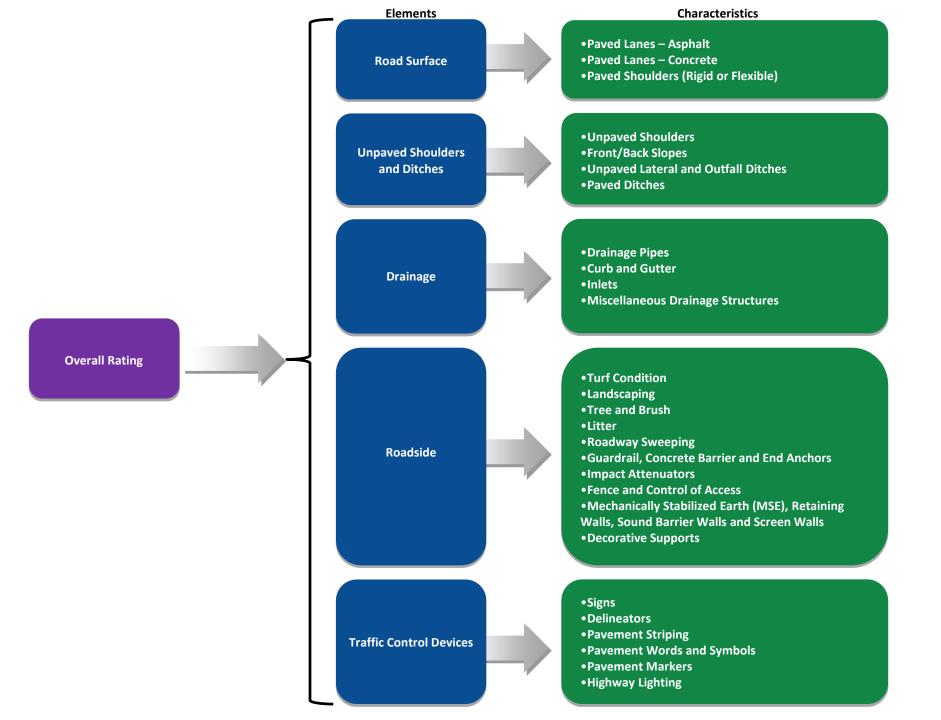
- Maintenance Rating Program (MRP)
- Plan to manage NCTA's asset base over a period of time in order to meet designated performance levels in the most cost-effective way
 - Systematic approach
 - Life-cycle
 - Resource allocation
 - Customer-focused



Systematic Approach

- Quantitative and Qualitative
- A systematic approach that produces numerical ratings allows us to quantify and compare results
 - Comparable to other agencies
 - Comparable to previous inspections





Systematic Approach

Road Surface 25%

Unpaved Shoulders 13%

Drainage 15%

Roadside 17%

Traffic Control Devices 30%



Rating Method

- The LOS ratings are done by comparing existing field conditions to the "threshold" value. If the feature/characteristic meets or exceeds the "threshold" then it is coded as YES it meets the criteria. If it does not meet the criteria then it is coded as a NO.
- When the survey is complete, the number of YES's and NO's are totaled, and a composite number (using from 1 to 100 scale) produced which represents the level of maintenance currently being provided.



Example: Signs

- Signs shall not lean more than
 1 inch per foot of post length
- The measurements show that the sign is leaning 1 ½ inches in a 1 foot length and therefore does not meet desired maintenance conditions







Example: Traffic Service

Asset: Signs (includes overhead signs and all ground-mounted signs within right of way, including

intersecting roads)

- Desired Outcome: visible, only non-functional damage allowed, good reflectivity
- Performance Standard:
 - Clear, reflective, and legible to driver at a distance of 320 feet. Night reflectivity effective at 320 feet
 - Surface 90% free of damage affecting sign function
 - Sign posts are plumb (less than 1" per ft of length)
 - Lights on signs, where required, are functional



Systematic Approach

Element	Q1 MRP Rating	Q2 MRP Rating	Q3 MRP Rating	Q4 MRP Rating	2016 Annual MRP Rating
Road Surface	98	100	99	98	99
Unpaved Shoulders and Ditches	98	100	100	100	99
Drainage	93	91	88	94	91
Roadside	92	83	90	94	90
Traffic Control Devices	93	96	90	88	92
Overall MRP Performance Rating	94.9	94.7	93.4	93.9	94.2



Life Cycle

- Entire life of assets are considered to ensure that the most cost-effective solution over the life of the project is selected.
 - Allows for long-term maintenance planning
 - More accurate expectation of when major rehab tasks will be needed



Life Cycle

- Quarterly Inspections
 - February, May, August and November
 - Seasonal Factors
- Major Rehab and Repair
 - Identify earlier



Resource Allocation

- Performance-based management is employed to ensure resources are allocated in the most costeffective manner and to the proper assets.
 - Provide same or better service at reduced cost
 - Provide better service for the same or marginally increased cost



Resource Allocation

- Random Sampling Method
- 95% confidence interval all four quarters
- Operate at rating of 90
- Spending the right amount of resources on the right asset at the right time.



Customer-Focused

- Customer expectations of North Carolina's first modern toll road drive the maintenance criteria thresholds.
 - Higher expectations than average roadway
 - Paying customers



Customer-Focused

- Higher Performance Thresholds
- Rate More Elements
- Customer Safety
 - Night time survey



Benefits

- Preventative vs. Reactive Maintenance
 - Prolong asset life
 - Minimize major rehabilitation costs
- Maximize maintenance budget efficiency
- Benefit-cost ratio of 2.33 (International Infrastructure Management Manual, 2006)



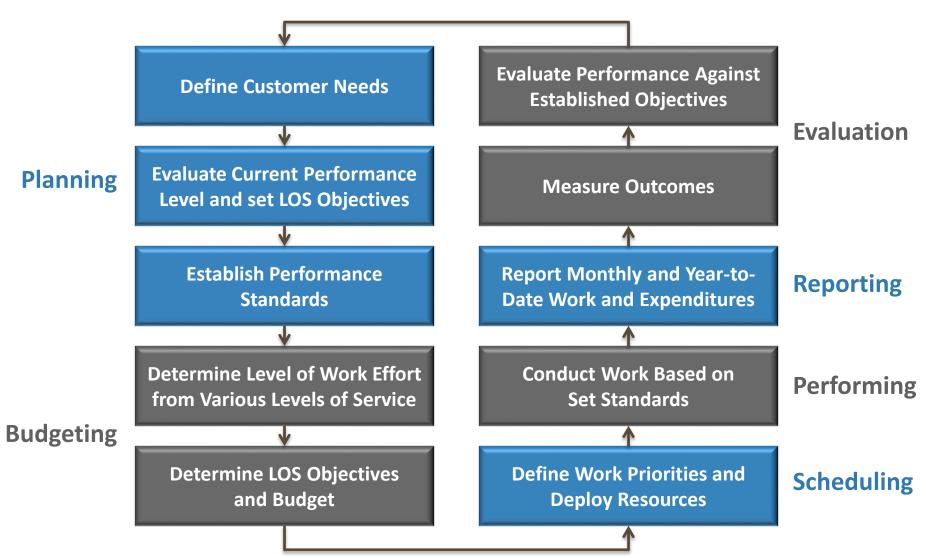
Costs

- FY 2016 Routine Maintenance Expenses-\$1.21M
 - Total: \$1.65M (inclusive of \$390K for Xerox)
- FY 2016 MRP Inspection Expenses ~\$80,000



Approach

The Maintenance Lifecycle



The Mission of this Program is to Establish

- Public perception and expectations
- Develop the funding level to meet the publics expectations
- Prioritize maintenance operations
- Achieve a uniform service level throughout the system by identifying excessively high or low areas of maintenance
- Identify areas requiring additional equipment or employee skills to improve levels of service in those areas



QUESTIONS?



Monroe Update

• Segment 3

- o Roadway Continuing to pave mainline. -Y- Lines will be completed this summer
- Structures All bridges and culverts will be completed in the next 2 months except the railroad bridge

• Segment 2

- o Roadway Finishing rough grade and beginning fine grading headed west
- Structures Secrest Shortcut Rd. bridge and Faith Church Rd. bridge are under construction

• Segment 1

- Roadway Continuing to fine grade, stabilize, and place ABC in the areas east of 74.
 Constructing detours for traffic shifts
- Structures Noise walls have started. Mckee Rd. bridge and Stallings Rd. bridge will be starting soon

Tolling

- Sites 2, 4, 5, 6 have the vaults set. Sites 2 and 5 have the generators installed
- Sites 3 and 7 have the pads installed
- Site 8 should start in the next 2 weeks
- First Gantry will begin next week









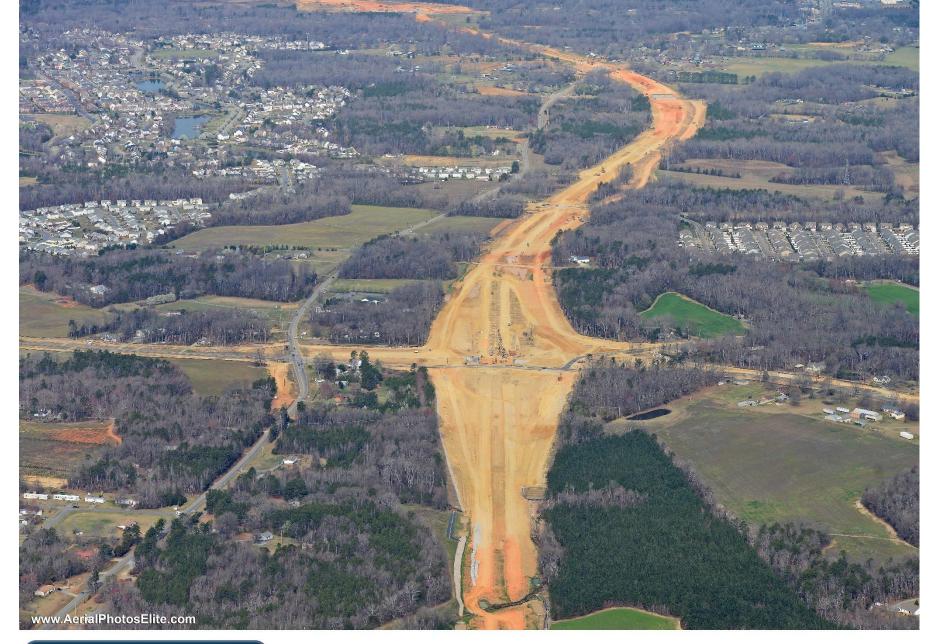




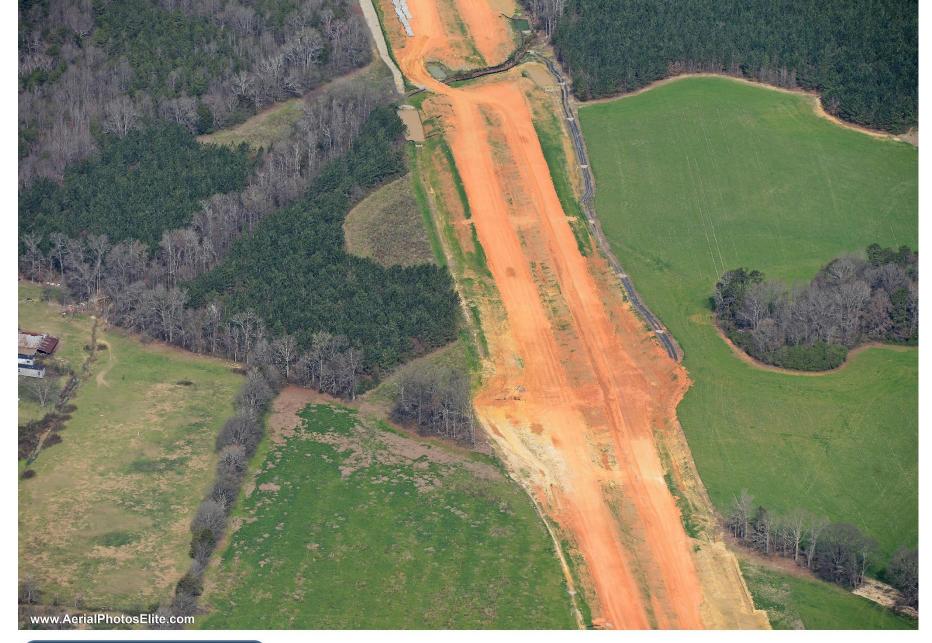












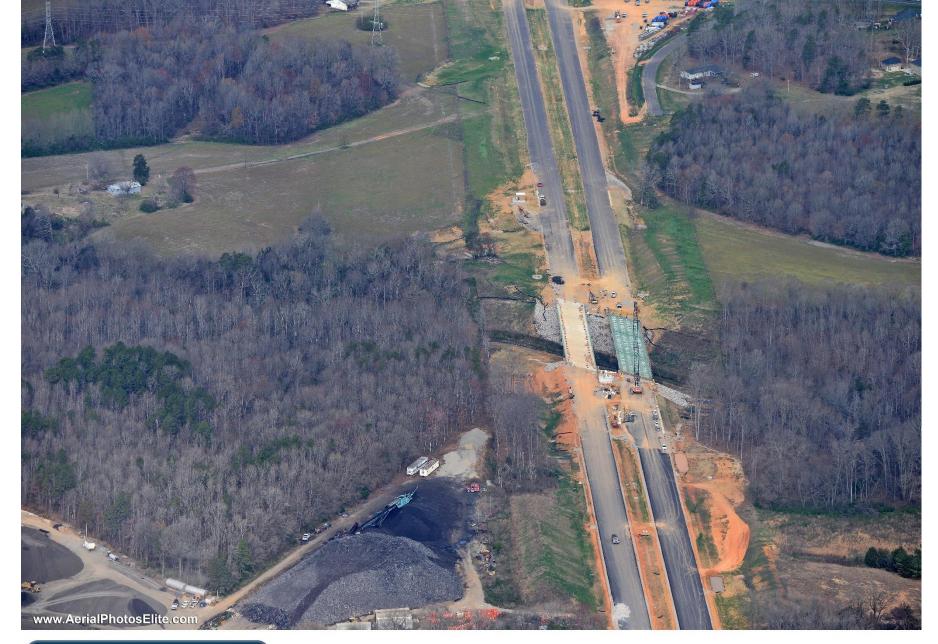




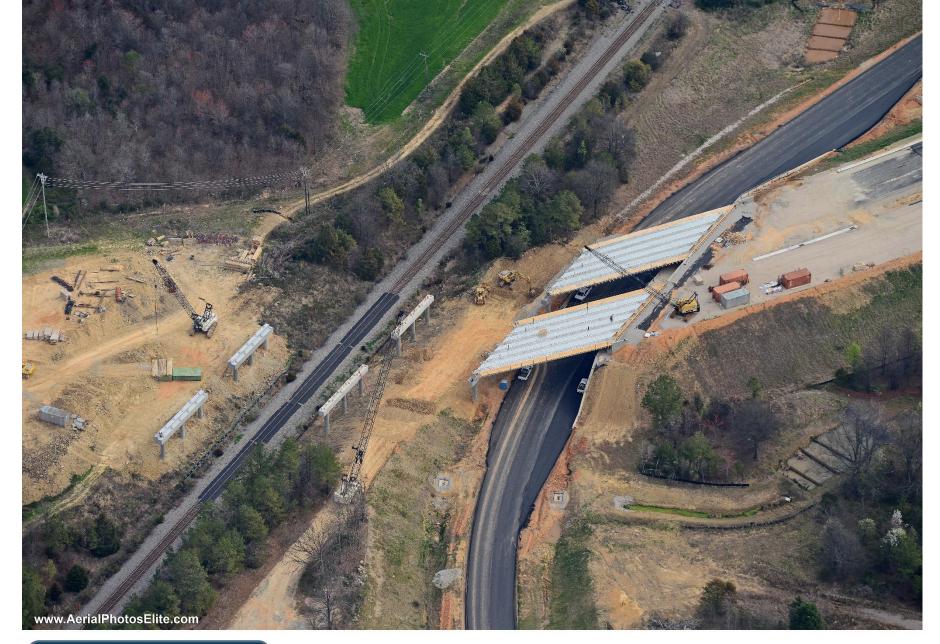






















Veridea Update

- TSI on schedule to commission toll sites by early April
- Contractor's current schedule shows late
 March completion

QUESTIONS?

